

This is an official Oklahoma Health Alert Network Health Advisory

January 20, 2016

OKHAN-234-2016-01-20-ADV-N

Recognizing, Managing, and Reporting Zika Virus Infections in Travelers Returning from Central America, South America, the Caribbean, and Mexico

Summary

In May 2015, the World Health Organization reported the first local transmission of Zika virus in the Western Hemisphere, with autochthonous (locally acquired) cases identified in Brazil. As of January 15, 2016, local transmission had been identified in at least 14 countries or territories in the Americas, including Puerto Rico (See Pan American Health Organization [PAHO] link below for countries and territories in the Americas with Zika virus transmission). Further spread to other countries in the region is likely.

Local transmission of Zika virus has not been documented in the continental United States. However, Zika virus infections have been reported in travelers returning to the United States. With the recent outbreaks in the Americas, the number of Zika virus disease cases among travelers visiting or returning to the United States will likely increase. These imported cases may result in local spread of the virus in some areas of the continental United States, meaning these imported cases may result in human-to-mosquito-to-human spread of the virus.

Zika virus infection should be considered in patients with acute onset of fever, maculopapular rash, arthralgia or conjunctivitis, who traveled to areas with ongoing transmission in the two weeks prior to illness onset. Clinical disease usually is mild. However, during the current outbreak, Zika virus infections have been confirmed in several infants with microcephaly and in fetal losses in women infected during pregnancy.

This HAN Advisory includes information and recommendations about Zika virus clinical disease, diagnosis, and prevention, and provides guidance for clinical management of pregnant women who traveled to a country where Zika virus is circulating. Out of an abundance of caution, pregnant women should consider postponing travel to any area where Zika virus transmission is ongoing. Pregnant women who do travel to these areas should talk to their doctors or other healthcare providers first and strictly follow steps to avoid mosquito bites during the trip. Healthcare providers are encouraged to report suspected Zika virus disease cases to the OSDH Acute Disease Service Epidemiologist-on-Call at (405) 271-4060 to facilitate diagnosis and to mitigate the risk of local transmission.

Background

Zika virus is a mosquito-borne flavivirus transmitted primarily by *Aedes aegypti*. *Aedes albopictus* (also known as Asian tiger mosquitoes) might also transmit the virus. Oklahoma has few *Ae. aegypti* mosquitoes, but populations of *Ae. albopictus* are plentiful throughout most of the state during mosquito season. Outbreaks of Zika virus disease have been reported previously in Africa, Asia, and islands in the Pacific.

Clinical Disease

About one in five people infected with Zika virus become symptomatic. Characteristic clinical findings include acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis. Clinical illness usually is mild with symptoms lasting for several days to a week. Severe disease requiring hospitalization is uncommon and fatalities are rare. During the

current outbreak in Brazil, Zika virus RNA has been identified in tissues from several infants with microcephaly and from fetal losses in women infected during pregnancy. The Brazil Ministry of Health has reported a marked increase in the number of babies born with microcephaly. However, it is not known how many of the microcephaly cases are associated with Zika virus infection and what factors increase risk to the fetus. Guillain-Barré syndrome also has been reported in patients following suspected Zika virus infection.

Diagnosis

Zika virus infection should be considered in patients with acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis who recently returned from affected areas. To confirm evidence of Zika virus infection, reverse transcription-polymerase chain reaction (RT-PCR) should be performed on serum specimens collected within the first week of illness. Immunoglobulin M (IgM) and neutralizing antibody testing should be performed on specimens collected ≥ 4 days after onset of illness. Zika virus IgM antibody assays can be positive due to antibodies against related flaviviruses (e.g., dengue and yellow fever viruses). Virus-specific neutralization testing provides added specificity but might not discriminate between cross-reacting antibodies in people who have been previously infected with or vaccinated against a related flavivirus.

There is no commercially available test for Zika virus. Zika virus testing is performed at the CDC Arbovirus Diagnostic Laboratory and a few state health departments. Healthcare providers should contact the OSDH Acute Disease Service Epidemiologist-on-Call at (405) 271-4060 to facilitate testing through the CDC Arbovirus Laboratory. Simultaneous testing for dengue and chikungunya viruses will likely be recommended.

Interim Guidelines for Pregnant Women

Until more is known and out of an abundance of caution, pregnant women should consider postponing travel to any area where Zika virus transmission is ongoing. Pregnant women, or women trying to become pregnant who do travel to one of these areas should strictly follow steps to avoid mosquito bites during the trip.

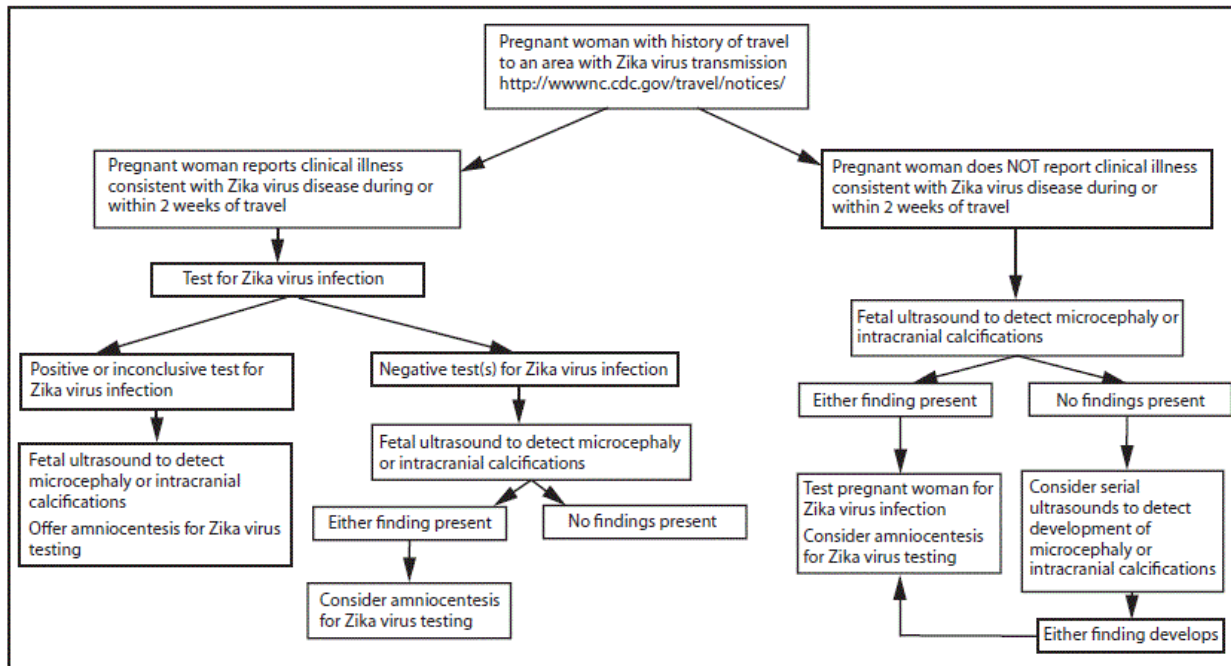
Health care providers should ask all pregnant women about recent travel. Women who traveled to an area with ongoing Zika virus transmission during pregnancy should be evaluated for Zika virus infection and tested in accordance with CDC Interim Guidance (see [Figure](#) below). Zika virus testing of maternal serum includes RT-PCR and IgM testing as described above. Testing of asymptomatic pregnant women is not recommended in the absence of fetal microcephaly or intracranial calcifications. Because of the similar geographic distribution and clinical presentation of Zika, dengue, and chikungunya virus infections, patients with symptoms consistent with Zika virus disease should also be evaluated for dengue and chikungunya virus infection, in accordance with existing guidelines.

Zika virus RT-PCR testing can be performed on amniotic fluid. Currently, it is unknown how sensitive or specific this test is for congenital infection. Also, it is unknown if a positive result is predictive of a subsequent fetal abnormality, and if so, what proportion of infants born after infection will have abnormalities. Amniocentesis is associated with an overall 0.1% risk of pregnancy loss when performed at less than 24 weeks of gestation. Amniocentesis performed ≥ 15 weeks of gestation is associated with lower rates of complications than those performed at earlier gestational ages, and early amniocentesis (≤ 14 weeks of gestation) is not recommended. Health care providers should discuss the risks and benefits of amniocentesis with their patients. A positive RT-PCR result on amniotic fluid would be suggestive of intrauterine infection and potentially useful to pregnant women and their health care providers.

For a live birth with evidence of maternal or fetal Zika virus infection, the following tests are recommended: histopathologic examination of the placenta and umbilical cord; testing of frozen placental tissue and cord tissue for Zika virus RNA; and testing of cord serum for Zika and dengue virus IgM and neutralizing antibodies. CDC is developing guidelines for infants infected by Zika virus. If a pregnancy results in a fetal loss in a woman with history of travel to an area of Zika virus transmission with symptoms consistent with Zika virus disease during or within 2

weeks of travel or findings of fetal microcephaly, Zika virus RT-PCR and immunohistochemical staining should be performed on fetal tissues, including umbilical cord and placenta.

Health care providers should contact the OSDH Acute Disease Service at (405) 271-4060 to facilitate testing and for assistance with interpreting test results.



** Clinical illness is consistent with Zika virus disease if two or more symptoms (acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis) are present.

Treatment

No specific antiviral treatment is available for Zika virus disease. Treatment is generally supportive and can include rest, fluids, and use of analgesics and antipyretics. Because of similar geographic distribution and symptoms, patients with suspected Zika virus infections also should be evaluated and managed for possible dengue or chikungunya virus infection. Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) should be avoided until dengue can be ruled out to reduce the risk of hemorrhage. In particular, pregnant women who have a fever should be treated with acetaminophen. People infected with Zika, chikungunya, or dengue virus should be protected from further mosquito exposure during the first few days of illness to reduce the risk of local transmission.

Prevention

No vaccine or preventive drug is available. The best way to prevent Zika virus infection is to:

- Avoid mosquito bites.
- Use air conditioning or window and door screens when indoors.
- Wear long sleeves and pants, and use insect repellents when outdoors. Most repellents, including DEET, can be used on children older than two months. Pregnant and lactating women can use all Environmental Protection Agency (EPA)-registered products.

For more information

- General information about Zika virus and disease: <http://www.cdc.gov/zika/>
- Zika virus information for clinicians: <http://www.cdc.gov/zika/hc-providers/index.html>
- Interim Guidelines for Pregnant Women During a Zika Virus Outbreak – United States, 2016: <http://dx.doi.org/10.15585/mmwr.mm6502e1er>
- Protection against mosquitoes: <http://wwwnc.cdc.gov/travel/yellowbook/2016/the-pre-travel-consultation/protection-against-mosquitoes-ticks-other-arthropods>
- Travel notices related to Zika virus: <http://wwwnc.cdc.gov/travel/notices>
- Information about Zika virus for travelers and travel health providers: <http://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/zika>
- Pan American Health Organization (PAHO): http://www.paho.org/hq/index.php?option=com_topics&view=article&id=427&Itemid=41484&lang=en
- Information on microcephaly: <http://www.cdc.gov/ncbddd/birthdefects/microcephaly.html>
- Approximate distribution of *Aedes aegypti* and *Ae. albopictus* mosquitoes in the United States: <http://www.cdc.gov/chikungunya/resources/vector-control.html>

Agency: Oklahoma State Department of Health

Notification ID: 234

Date: 01/20/2016

Time: 3:30 pm

Severity: Moderate

Acknowledgement: No

Sensitive: No

Status: Actual

Notification Type: Advisory

Reference: CDCHAN-00385

Dissemination: As Needed

Categories of Health Alert messages:

Health Alert highest level of notification that the Oklahoma State Department of Health will send out. This usually refers to an immediate threat to the OSDH community and requires immediate action.

Health Advisory advises medical providers of a condition in the area. These are usually not medical emergencies. These may not require immediate action.

Health Update provides updates on previous alerts or advisories. These are unlikely to require immediate action.

This advisory has been distributed to Primary Care Physicians, Emergency Departments, Infection Preventionists, and State and Local Health Officials

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